

What is claimed is:

1. A cross member arranged so as to extend in a width direction of a vehicle body, having both ends connected to side framework structures of the vehicle body, the cross member comprising:

5 a base frame extending in the width direction; and
reinforcing frame parts formed in integral with the base frame to cover the circumference of the base frame within limited ranges of the base frame in the width direction of the vehicle body, wherein

10 the base frame and the reinforcing frame parts are made from a
same resinous material or plural resinous materials belonging to a same material system.

2. The cross member of claim 1, wherein the material of the reinforcing frame parts is higher in rigidity than the material of the base frame.

15 3. The cross member of claim 1, wherein the base frame and the reinforcing frame parts are made from a same engineering plastic material or engineering plastic materials belonging to a same material system.

20 4. The cross member of claim 3, wherein the base frame is made from resinous material containing a reinforcing material.

5. The cross member of claim 3, wherein the reinforcing frame parts are made from resinous material containing a reinforcing material.

25 6. The cross member of claim 2, wherein the reinforcing frame parts are

arranged on both ends of the base frame and also provided with side bracket parts connected to the side framework structures of the vehicle body.

5 7. The cross member of claim 6, wherein one of the reinforcing frame parts is provided with brackets.

8. The cross member of claim 1, wherein the base frame comprises a hollow part to serve as a part of an air conditioning duct.

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9. The cross member of claim 4, wherein the reinforcing material contains at least one of glass fiber, talc, carbon fiber, Kevlar fiber, ceramic fiber, metal fiber and natural fiber.

15 10. The cross member of claim 4, wherein the reinforcing material contains glass fiber of 15 to 50 % content, of which flexural elasticity is more than 10 GPa at absolute dry and 5 GPa at wet.

11. The cross member of claim 5, wherein the reinforcing material
20 contains at least one of glass fiber, talc, carbon fiber, Kevlar fiber, ceramic fiber, metal fiber and natural fiber.

12. The cross member of claim 5, wherein the reinforcing material contains glass fiber of 30 % or more content, of which flexural elasticity is
25 more than 25 GPa at absolute dry and 10 GPa at wet.

13. The cross member of claim 7, wherein the brackets comprise a support bracket for fixing a support member.

14. The cross member of claim 1, wherein the base frame is provided, on
5 an outer surface thereof, with a plurality of bosses opposing to the inner surface of the reinforcing frame part.

15. The cross member of claim 1, wherein the bosses are arranged in different positions in the axial direction of the base frame and also arranged
10 so that each of the bosses is present in different cross sections perpendicular to the axial direction of the base frame.

16. A manufacturing method of a cross member which is arranged so as to extend in a width direction of a vehicle body, having both ends
15 connected to side framework structures of the vehicle body, the method comprising:

forming a base frame extending in the width direction of the vehicle body by means of resinous molding; and

insert-molding the base frame, within limited ranges thereof in the
20 width direction of the vehicle body, in resinous material belonging to a same material system as material of the base frame, thereby forming reinforcing frame parts in integral with the base frame.

17. The manufacturing method of claim 16, wherein the base frame is
25 produced by injection molding.

18. The manufacturing method of claim 16, wherein the reinforcing frame parts are produced by means of insert-molding while inserting part of the base frame into a molding die.
- 5 19. The manufacturing method of claim 16, wherein the material of the reinforcing frame parts is higher in rigidity than the material of the base frame.
20. The manufacturing method of claim 16, wherein the base frame and
10 the reinforcing frame parts are made from same engineering material or plural engineering plastic materials belonging to the same material system.
21. The manufacturing method of claim 20, wherein the base frame is made from resinous material containing a reinforcing material.
- 15 22. The manufacturing method of claim 20, wherein the reinforcing frame parts are made from resinous material containing a reinforcing material.
- 20 23. The manufacturing method of claim 16, wherein the base frame has a hollow part to serve as a part of an air conditioning duct.
24. The manufacturing method of claim 21, wherein the reinforcing material contains at least one of glass fiber, talc, carbon fiber, Kevlar fiber,
25 ceramic fiber, metal fiber and natural fiber.

25. The manufacturing method of claim 21, wherein the reinforcing material contains glass fiber of 15 to 50 % content, of which flexural elasticity is more than 10 GPa at absolute dry and 5 GPa at wet.

5 26. The manufacturing method of claim 22, wherein the reinforcing material contains at least one of glass fiber, talc, carbon fiber, Kevlar fiber, ceramic fiber, metal fiber and natural fiber.

10 27. The manufacturing method of claim 22, wherein the reinforcing material contains glass fiber of 30 % or more content, of which flexural elasticity is more than 25 GPa at absolute dry and 10 GPa at wet.

15 28. The manufacturing method of claim 18, wherein the reinforcing frame parts are produced by means of injection molding while inserting a part of the base frame.

29. The manufacturing method of claim 16, further comprising:
accommodating the base frame in a molding die, the base frame having a plurality of bosses formed on the outer circumferential surface of
20 the base frame, the bosses each having a height capable of contacting with the inner surface of the molding die in a closed condition; and
filling up a cavity between the outer circumferential surface of the base frame and the inner surface of the molding die with molten resin to provide the reinforcing frame parts by hardening the molten resin, whereby
25 the base frame is covered with the reinforcing frame parts.

30. The manufacturing method of claim 29, wherein the bosses are arranged in different positions in the axial direction of the base frame and also arranged so that each of the bosses is present in different cross sections perpendicular to the axial direction of the base frame.

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31. The manufacturing method of claim 29, wherein the bosses are shaped to be substantially columnar.

32. The manufacturing method of claim 29, wherein the base frame has a plurality of ribs formed on the outer circumferential surface of the base frame to connect the bosses with each other.

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33. The manufacturing method of claim 29, wherein each of the ribs has a height lower than the bosses.

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